In-House Training Using Google Form to Improve Teacher's Competence in Making HOTS Problems at SDN 2 Selanegara

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Abstract. The principal's job is to lead and manage the operation of education in schools. For this reason, teachers who will register themselves as school principals must have qualified competence in the field of education. The purpose of this study is: 1) to find out the increase in competence of SDN 2 Selelanegara teachers in making HOTS questions through Google Forms through in-house training (IHT); and 2) to evaluate the increase in competence of SDN 2 Selelanegara teachers in making HOTS questions through Google Forms through in-house training (IHT). The research method used uses class action research methods. Data collection techniques using observation, tests, and documentation This research resulted in: 1) an increase in the competence of SDN 2 Selanegara teachers in making HOTS questions through Google Forms through in-house training (IHT); and 2) Increased evaluation results of SDN 2 Selanegara teachers in making HOTS questions through Google Forms through in-house training (IHT).

Keywords: HOTS, In-house training Program, Teacher Competence

1 Introduction

Elementary school. School principals have five competencies: personality competencies, managerial competencies, entrepreneurial competencies, supervision competencies, and social competencies [1]. With the competencies possessed by the principal, the principal must be able to see and know what needs to be developed in the school he manages. The principal is a leader in a school, so the principal is expected to be able to manage the school well. In leading schools, the principal will be assisted by all school members, such as teachers, staff, and students.

To find out if a problem exists in the school, the principal approaches the teacher. From this approach, the results obtained indicate a problem that must be resolved. The problem that occurred at SDN 2 Selanegara was that the teachers skills in making HOTS questions were still not optimal. On the other hand, the teachers at SDN 2 Selanegara are not proficient enough in operating technology such as Google Forms. Teachers in teaching and managing classes are still in their comfort zones, so learning in the classroom becomes less than optimal. The use of Google Forms in making HOTS-based questions can be an alternative for school principals to train teachers and students to get out of their comfort zones so as to provide a more interesting and memorable learning experience.

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From these problems, the principal of SDN 2 Selanegara, as a researcher, conducted development and training in making HOTS questions using the Google Form. HOTS questions are questions that are designed for high-thinking students, such as remembering, understanding, and applying. HOTS questions are used to measure relationships between concepts, look for related data sources, and critically examine information [2]. In addition to students who are required to be able to work on HOTS questions, teachers are also required to be able to make HOTS questions using technology, one of which is the Google Form. The use of this technology will have a positive influence on teachers and students, especially the use of Google Forms.

Google Forms is software provided by Google that is used to provide evaluations to students or collect data [3]. Utilization of Google Forms can make it easier for teachers to ask questions and also develop teacher competence. By combining the creation of HOTS questions with the use of Google Forms, it is hoped that this will increase teacher competence. Based on research conducted by Erydawaty with the title "Increasing Teacher Competency in Writing HOTS Questions Through the In-House Training (IHT) Program," the results obtained showed that the teacher's ability to write questions increased from cycle I to cycle II. The renewal of my research from previous research is that this research is aimed at teachers in making HOTS questions via Google Form, which will be directly applied to students in class.

The characteristics of SDN 2 Selelanegara students in learning in the classroom are still passive. The teacher feels that when teaching students, they still feel less than optimal and are worried that student scores will decrease. On the other hand, students also need maximum learning. So with training in making HOTS questions through an in-house training program for teachers, it will provide quality learning for students in the classroom. It is certain that with this program, teachers can improve their competence.

The aims of this study were: 1) to increase the competency of SDN 2 Selelanegara teachers in making HOTS questions through the Google form; 2) to improve the quality of learning for SDN 2 Selelanegara students; and 3) to increase the competency of prospective school principals who are still low in AKPK. The expectations from this study are that 1) there will be an increase in the competence of SDN 2 Selanegara teachers in making HOTS questions through the Google Form; 2) improving the quality of learning for SDN 2 Selelanegara students; and 3) increasing the competency of prospective school principals who are still low in AKPK.

2 Research methods

The research conducted was school action research. School action research is a way to find out the truth of a hypothesis. This study uses the Kurt Lewin model, which has four stages: planning, implementing, observing, and reflecting [4]. The research was conducted at SDN 2 Selanegara, Kaligondang District, Purbalingga Regency. The research subjects were all teachers at SDN 2 Selanegara.

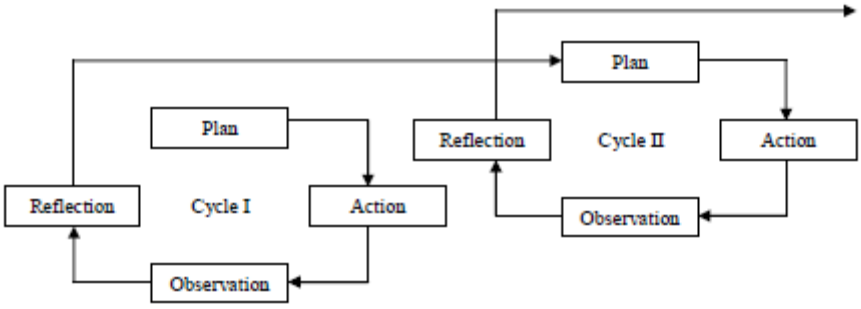

Fig. 1 Research Flow

The explanation of the cycle flow above is as follows:

1. In the planning stage, or the initial design or plan, before conducting the research, the researcher formulates the problem formulation and objectives and creates an action plan, including research instruments and research tools.
2. The Action or Activity Implementation stage includes actions taken by researchers as an effort to realize the in-house training (IHT) program for making HOTS questions using the Google form.
3. Observation or Observation Phase: carrying out observational actions or observing the results or impacts of implementing the in-house training (IHT) program for making HOTS questions using the Google form.
4. Reflection: the researcher examines, sees, and considers the results or impacts of the actions taken based on the observation sheet filled in by the observer.
5. Make revised plans or plans, based on the reflections of observers, to be implemented in the next cycle.

This procedure is planned in 2 cycles, namely cycle I and cycle II, each cycle has the same activity flow. If in two cycles the research performance standards have not been met, a third cycle is held

3 Result and discussion

The research results can be seen as follows:

a. Cycle I
   1) Planning, this stage is carried out by conducting socialization and forming an in-house training committee at SDN 2 Selanegara. The researcher reveals the activity title, activity objectives, indicators, and activity flow.
   2) Execution, the implementation phase is carried out by realizing the in-house training program for making HOTS questions through the Google form. At this stage, the researcher provided assistance regarding the dimensions of cognitive processes, operational verbs, levels of thinking, how to analyze basic competencies, indicators of achievement of competencies, and the practice of making question grids and preparing HOTS questions.

3) Evaluation, the evaluation stage is the stage where the researcher evaluates the research conducted and analyzes the success of the program that has been implemented at SDN 2 Selanegara. Monitoring the implementation of the cycle 1 leadership project plan (LPP) is carried out by direct observation, as can be seen in the following table:

Tabel 1.
Monitoring the Implementation of Cycle 1 Leadership Project Plan (LPP) Activities

No	Activity	Description	Implimentation Yes	Implimentation No	Note
1	Prepare	1. Socializing	√		
		2. committee formation	√		
		3. Prep meeting	√		
		4. Determine the time and place of the activity	√		
		5. Determine sources	√		
		6. Determine budget	√		
		7. Coordinate with resource persons	√		
2	Implementation	8. Greeting from the principal	√		
		9. Carry out as long as it is in accordance with the time and place that has been determined	√		
		10. Resource persons facilitate the implementation of in house training (IHT)	√		
		11. The resource person accompanies the teacher when compiling questions	√		
		12. The resource person accompanies the teacher when creating hots questions with Google forms	√		
		13. The teacher actively participates in in house training (IHT) activities		√	
		14. The teacher is enthusiastic in participating in house training (IHT) activities		√	
		15. Evaluation of in house training (IHT) participants with product evaluation	√		
		Amount	13	12	
		Gain Skor "Yes"	13		
		Total Acquisition (acquisition score "Yes" : maximum score (a number of description items) x 100)	$\frac{f}{n}\times 100\% = \frac{13}{15} \times 100\% = 86,67\%$		

The data that has been obtained is analyzed in percentage form and then adjusted to the teacher's response criteria. The following is the calculation of the percentage of cycle I leadership projects, namely:

$$\text{Percentage of cycle I leadership projects } I = \frac{f}{n} \times 100\%$$

Source: (Purwanto,2019) [5]

Information:
f : Many teachers answered "yes"
n : Total number of answers

The percentage results obtained were then matched with the teacher's response criteria in the table below.

Table 2.
Teacher Response Criteria

Score Average Interval	Score Criteria
85%≤ AI	Very good
70%≤ AI<85%	Good
50%≤ AI<70%	pretty good
AI<50%	not enough

Source: (Purwanto, 2019) [5]

From the table above, it can be concluded that the implementation of the Leadership Project Plan (LPP) activities in cycle I, almost all activities were carried out according to the specified terms and time, however, some participants were still found to be less active and less enthusiastic due to the lack of involvement of participants when the resource person delivered the material and there were participants those who don't carry laptops. Quantitatively 86.67% of the implementation went according to the instruments used so that qualitatively the implementation of the Leadership Project Plan cycle I went very well. Evaluation for participants is carried out after the In-house training (IHT) activities are carried out. This evaluation was carried out on 5 teachers using the instruments that had been prepared.

The indicators for the success of cycle 1 can be seen in the evaluation of the results of the activities, namely: 1) The teacher understands the making of HOTS questions for this indicator; a score of 90 is obtained; 2) The teacher can make HOTS questions via the Google form; on this indicator, a score of 65 is obtained; and 3) The teacher can apply HOTS questions via the Google form in the assessment; on this indicator, a score of 65 is obtained.

The recap of the evaluation of the results of the activity showed that 20% of the IHT participants got very good scores, 40% of the participants got good scores, 20% of the participants got enough, and 20% of the participants got less marks, so this IHT has not shown a maximum score. In fact, there were two participants who had not been able to upload HOTS questions to the Google form, so they had not been able to apply them to the assessment. However, quantitatively evaluating the results of activities for participants in the leadership project plan (LPP) was 73.33%, so it can be said to be successful. This can be seen in the following table:

Tabel 3.
Evaluation of Cycle I Leadership Project Plan Activity Results (LPP).

No	Success Indicator	Achievement				Note
		4	3	2	1	
1.	The teacher understands making HOTS questions	3	2			
2.	Teachers can make HOTS questions via the Google form	1	2	1	1	
3.	The teacher applies HOTS questions through the Google form in the assessment	1	2	1	1	
	Total Score	20	18	4	2	
	Total Score Obtained	44				
	Result (Score obtained: Maximum score) x100)	$\frac{f}{n} \times 100\% =$ $\frac{44}{60} \times 100\% = 73{,}33\%$				

The data that has been obtained is analyzed in percentage form and then adjusted to the teacher's response criteria. The following is the calculation of the percentage of cycle I leadership projects, namely:

$$\text{Percentage of cycle I leadership projects I} = \frac{f}{n} \times 100\%$$

Source: (Purwanto, 2019) [5]

Information:
f : Many teachers answered "yes"
n : Total number of answers

The percentage results obtained were then matched with the teacher's response criteria in the table below.

Table 4.
Teacher Response Criteria

Score Average Interval	Score Criteria
85%≤ AI	Very good
70%≤ AI<85%	Good
50%≤ AI<70%	pretty good
AI<50%	not enough

Source: (Purwanto, 2019) [5]

4) Reflection After the implementation and evaluation activities are carried out, the next stage is the reflection stage. The reflection stage is carried out to determine the implementation of the in-house training program. The following is the result of reflection from cycle I:
   a) Participants still do not understand how to make HOTS stimulus questions.
   b) Some of the HOTS questions made by the participants were not included in the HOTS category.
   c) There are still participants who have not been able to put HOTS questions into the Google form.
   d) Resource persons do not involve participants. There were participants who did not bring laptops.

5) Follow up Based on the results of cycle I's reflection, follow-up plans still need to be carried out because more than 50% of teachers are still experiencing problems.

b. Cycle II

The next step in follow-up is to do cycle II. Cycle II is carried out in four stages: preparation, implementation, evaluation, and reflection.

1) Preparation The preparatory stage was carried out before carrying out in-house training (IHT) to increase teacher competence in making HOTS questions through the Google form. These steps include:
   a) Conduct a meeting with the teacher regarding the results in cycle I.
   b) Coordination with resource persons.
   c) Preparation of invitations and attendance lists of participants.
   d) Layout of in-house training (IHT) activities
2) Execution The implementation phase is carried out by realizing in-house training (IHT) activities to increase teacher competence in making HOTS questions through a Google Form with consideration of the results of reflection in cycle I. At this stage, the resource person provides HOTS re-introduction material, operational verbs, characteristics of HOTS questions, and steps to compose HOTS questions. The culmination of the implementation activity is making HOTS questions, and after making the questions, the participants consult the results of working on the HOTS questions.
3) Evaluation The evaluation stage is carried out by processing the data that has been obtained in the implementation stage. The data obtained are as follows:

Based on the results of direct monitoring of the implementation of the activities In the leadership project plan (LPP) for cycle II, almost all activities are carried out according to the conditions and time specified. All participants were seen as active and enthusiastic. Quantitatively, 100% of the implementation went according to the instruments used, so qualitatively, the implementation of cycle II of in-house training (IHT) went very well. This can be seen in the table below:

Tabel 5.
Monitoring the Implementation of Cycle II Leadership Project Plan (LPP) Activities

No	Activity	Description	Implimentation Yes	Implimentation No	Note
1	Prepare	1. Socializing	√		
		2. committee formation	√		
		3. Prep meeting	√		
		4. Determine the time and place of the activity	√		
		5. Determine sources	√		
		6. Determine budget	√		
		7. Coordinate with resource persons	√		
2	Implementation	8. Greeting from the principal	√		
		9. Carry out as long as it is in accordance with the time and place that has been determined	√		
		10. Resource persons facilitate the implementation of in house training (IHT)	√		
		11. The resource person accompanies the teacher when compiling questions	√		
		12. The resource person accompanies the teacher when creating hots questions with Google form	√		
		13. The teacher actively participates in house training (IHT) activities	√		
		14. The teacher is enthusiastic in participating in house training (IHT) activities	√		
		15. Evaluation of in house training (IHT) participants with product evaluation	√		
		Amount	15		
		Gain Skor "Yes"	15		
		Total Acquisition (acquisition score "Yes" : maximum score (a number of description items) x 100)	$\frac{f}{n}\times 100\% = \frac{15}{15}\times 100\% = 100\%$		

The data that has been obtained is analyzed in percentage form and then adjusted to the teacher's response criteria. The following is the calculation of the percentage of cycle I leadership projects, namely:

$$\text{Percentage of cycle I leadership projects I} = \frac{f}{n} \times 100\%$$

Source: (Purwanto, 2019) [5]

Information:
f : Many teachers answered "yes"
n : Total number of answers

The percentage results obtained were then matched with the teacher's response criteria in the table below.

Table 6.
Teacher Response Criteria

Score Average Interval	Score Criteria
85%≤ AI	Very good
70%≤ AI<85%	Good
50%≤ AI<70%	pretty good
AI<50%	not enough

Source: (Purwanto, 2019) [5]

Evaluation for participants was carried out after the second cycle of in-house training (IHT). This evaluation was carried out on five teachers using the instruments that had been prepared. The indicators for the success of cycle II can be seen in the evaluation of the results of the activities, namely: 1) The teacher understands the making of HOTS questions for this indicator; a score of 100 is obtained; 2) The teacher can make HOTS questions via the Google form; for this indicator, a score of 85 is obtained; 3) The teacher can apply HOTS questions through the Google form in the assessment; for this indicator, a score of 90 is obtained.

Based on the recap of the evaluation instrument for the results of cycle II in-house training (IHT) activities, it showed an increase of 60% of in-house training (IHT) participants getting very good scores, and 40% of participants getting good scores, so that IHT cycle 2 has shown good grades. maximum. In fact, all participants who were able to upload HOTS questions to the Google form were able to apply them in the assessment. Quantitatively, the evaluation of the results of activities for participants in the second cycle of the leadership project plan (LPP) was 88.28%, so it can be said to be very successful. This can be seen in the tables and graphs as follows:

Tabel 7.
Evaluation of Cycle II Leadership Project Plan (LPP) Activity Results

No	Success Indicator	Achievement				Note
		4	3	2	1	
1.	The teacher understands making HOTS questions	5				
2.	Teachers can make HOTS questions via the Google form	2	3			
3.	The teacher applies HOTS questions through the Google form in the assessment	1	4			
	Total Score	32	21			
	Total Score Obtained	53				
	Result (Score obtained: Maximum score) x100)	$\frac{f}{n}\times 100\% =$ $\frac{53}{60}\times 100\% = 88{,}33\%$				

The data that has been obtained is analyzed in percentage form and then adjusted to the teacher's response criteria. The following is the calculation of the percentage of cycle I leadership projects, namely:

$$\text{Percentage of cycle I leadership projects I} = \frac{f}{n} \times 100\%$$

Source: (Purwanto, 2019) [5]

Information:
f : Many teachers answered "yes"
n : Total number of answers

The percentage results obtained were then matched with the teacher's response criteria in the table below.

Table 8.
Teacher Response Criteria

Score Average Interval	Score Criteria
85%≤ AI	Very good
70%≤ AI<85%	Good
50%≤ AI<70%	pretty good
AI<50%	not enough

Source: (Purwanto, 2019) [5]

4) Reflection Four days after the cycle II in-house training (IHT) activities, a reflection was carried out to find out the implementation of the results of the in-house training (IHT). This reflection activity is also to find out the obstacles and difficulties faced by teachers in implementing the results of in-house training (IHT). Reflection activities are carried out in the form of meetings and discussion forums. The reflection results are as follows:
   1) All participants already understand how to make grids, stimuli, and HOTS questions.
   2) The HOTS questions made by the participants are included in the HOTS category.
   3) All participants are able to pour HOTS questions into the Google form.
   4) Students have worked on the questions on time and only once.
   5) The average score obtained by students is above the KKM.
   6) There needs to be a habit for participants to make HOTS questions in other subjects so that their abilities increase and they are able to analyze, assess, evaluate, and think critically.

The discussion of this research is as follows:

The results of the research in cycle I Implementation of Leadership Project Plan Activities get a score of 86.67% then in cycle II Implementation of Leadership Project Plan Activities get a score of 100%. From the data obtained, there was an increase of 13,33%. Furthermore, the results of the evaluation in cycle I got a score of 73.33% then in cycle II got a score of 88.33%. From the data from the evaluation results in cycle I and cycle II, there was an increase of 15 %. So, from the acquisition of leadership project implementation and evaluation results, it can be concluded that the in-house training program for making HOTS questions at SDN 2 Selanegara was declared effective in increasing teacher competence. These results are in line with previous research, namely:

The first research is conducted by Heni Ribut Handayani with the title "Increasing Teacher Competence in Compiling RPP and Implementation of Learning Through IHT Techniques (In-House Training). It has similarities with my research, namely increasing teacher competence through in-house training (IHT). This research has a difference from my research in the material applied; my research applied the material for making HOTS questions, but the research conducted by Heni Ribut Handayani was compiling lesson plans and implementing learning techniques. Based on the results of the research, the application of in-

house training (IHT) can increase teacher competency in preparing lesson plans and implementing learning in SD Imogiri [6].

The second research, namely research conducted by Sri Nuruningsih and Ekanti Ayuningtyas Palupi with the title "Increasing Teacher Competence in Preparing Learning Implementation Plans (RPP) Using the Focus Group Discussion Method in In-House Training (IHT) Activities for Teachers at SDN Pondok 03," has in common with My research aims to improve teacher competence through in-house training (IHT). This research has a difference from my research; my research applied the material that is making HOTS questions, while the research conducted by Sri Nuruningsih applied material for preparing lesson plans (PLP). Based on the results of research conducted by house training activities, it can improve teacher competence in preparing effective, meaningful, and fun independent lesson plans (PLP) for teachers at Pondok 03 Elementary School [7].

The third research, namely research conducted by Osnely Jasmi with the title "Efforts to Increase Teacher Competence in Writing Handouts Through In-House Training During a Pandemic Period," has similarities with my research to improve teacher competency through in-house training (IHT). This research has a difference from my research; my research applied the material that is making HOTS questions, while the research conducted by Osnely Jasmi used handout writing material. Based on the results of research conducted in-house, training can improve the ability of teachers in Lareh Sago Halaban district to write handouts [8].

Based on the explanation above, the in-house training program can improve teacher competence. Based on previous research that has been done, this research was carried out by implementing an in-house training program for making HOTS questions for SDN 2 Selanegara teachers. The advantages of this research are that it can provide teachers with understanding in making HOTS questions, giving teachers opportunities to learn to use technology, especially Google Forms, and that the results of making HOTS questions can be given to students so that the quality of learning in class can improve. The weakness of this research is that it is only implemented at SDN 2 Selanegara; it requires a budget because it brings in resource persons; and there are still some teachers who are not well versed in technology, especially Google Forms.

This research can be used as a reference for school principals to develop leadership potential in schools. For class teachers, this research can be used as a reference for developing the potential of students in terms of improving HOTS thinking skills. For researchers, it can be used as a reference for developing research studies on in-house training, especially in the scope of basic education.

4 Conclusion

Based on the results of the research that has been carried out, it can be concluded that:

1. There was an increase in the competence of SDN 2 Selanegara teachers in making HOTS questions through Google Forms through in-house training (IHT).
2. Improved teacher evaluation results at SDN 2 Selanegara in making HOTS questions via Google Form through in-house training (IHT)

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